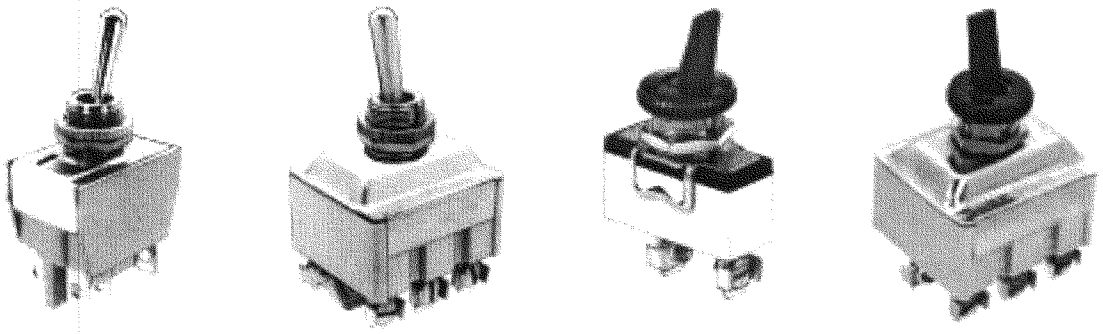
600H & 600NH SERIES - POWER TOGGLE SWITCHES

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE



FEATURES

- **Motor load and power ratings.**
- **Single, double & three pole models with nickel plated brass or insulated actuators.**
- **Locking actuator options for single & double poles.**

SPECIFICATIONS

Contact ratings (resistive loads):	Functions ON-OFF and ON-ON: 15A 250VAC or 10A 24VDC Functions ON OFF ON: 15A 250VAC Other functions: 12A 250VAC, 15A 125VAC or 5A 25VDC
Maximum approved ratings:	UL/CSA: SP, DP & 3P function ON-ON & 3P function ON-OFF - 15A 1/2HP 125/250 VAC. Other functions 10A 1/2HP 125/250VAC VDE: 600NH SP & DP functions ON-ON & ON-OFF - 10(4)A 400VAC, grounding lug ring, p/n U187 required (order separately).
Initial contact resistance:	10 milliohms maximum
Insulation resistance:	1000 megohms min. at 500 VDC
Dielectric strength:	2000 V rms min. - between terminals 2500 V rms min. - between terminals and frame
Electrical life at full load:	10,000 cycles minimum
Operating temperature range:	-20°C to +55°C

MATERIALS

Contacts:	Silver/nickel alloy
Actuator:	600H: nickel plated brass 600NH: black polyamide
Bushing:	Nickel plated brass
Housing:	Stainless steel or tin plated steel
Case:	Melamine/polyester
Hardware:	600H models are supplied with 1 Hex Nut p/n U166 & 1 Knurled Nut p/n U411. 600NH models are supplied with 1 Hex Nut U166 & 1 black Knurled Nut p/n U522. See hardware section of catalog.

AGENCY RECOGNITION

UL & CSA: 600H.
VDE, UL & CSA: 600NH. Recognition markings are standard.

ABOUT THIS SERIES

The material in this series is organized in the following sequence:

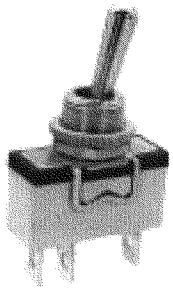
a. Completely specified switch models
b. 'build your own switch' order format
c. Option drawings & special options
d. Miscellaneous

ALSO IN THIS SERIES

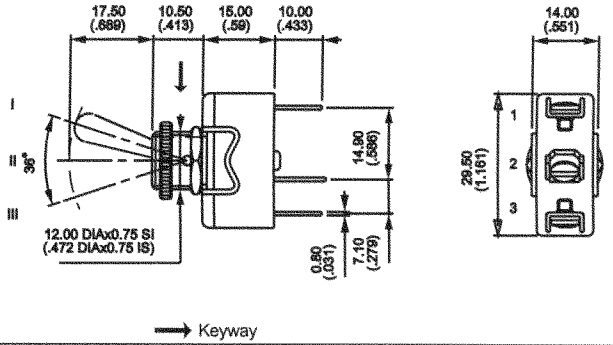
Switches for peak currents - for switching power supplies, DC-DC converters, motors, etc. See specifications on last page of completely specified models.

600H & 600NH SERIES - POWER TOGGLE SWITCHES

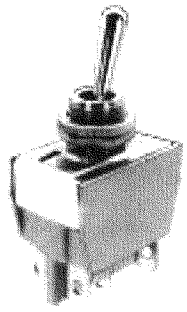
Single pole - nickel plated brass actuator



SOLDER LUG	SCREW TERMS.	CIRCUIT		
631H/2	631H	ON	-	OFF
635H/2	635H	MOM	-	ON
636H/2	636H	ON	-	ON
637H/2	637H	MOM	OFF	MOM
638H/2	638H	ON	OFF	MOM
639H/2	639H	ON	OFF	ON
Handle position (see dwg.) :		III	II	I
Terminals connected:		2-1		2-3

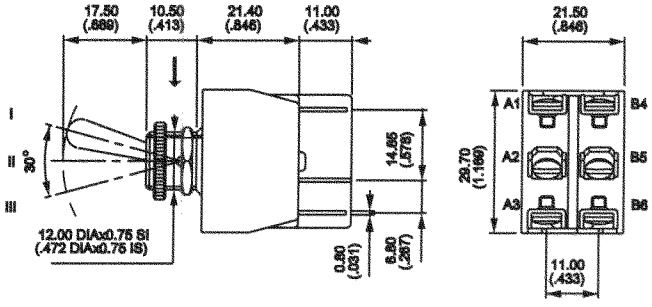


Double pole - nickel plated brass actuator

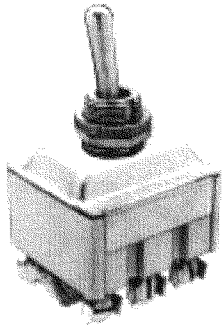


SOLDER LUG	SCREW TERMS.	CIRCUIT		
641H/2	641H	ON	-	OFF
644H/2*	644H*	ON	ON	ON
644H/21R*	644H1R*	ON	ON	MOM
644H/22R*	644H2R*	MOM	ON	MOM
645H/2	645H	MOM	-	ON
646H/2	646H	ON	-	ON
647H/2	647H	MOM	OFF	MOM
648H/2	648H	ON	OFF	MOM
649H/2	649H	ON	OFF	ON
Handle position:		III	II	I
Terminals		2-1		2-3
connected:		5-4		5-6

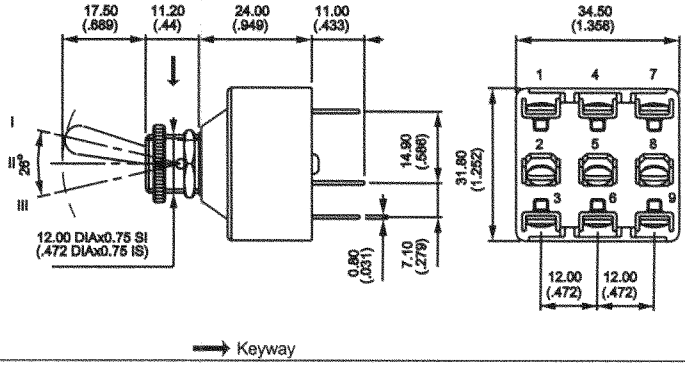
* Function 4: SP in DP case. See info. at end of section.



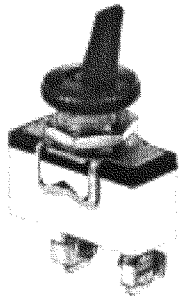
Three pole - nickel plated brass actuator



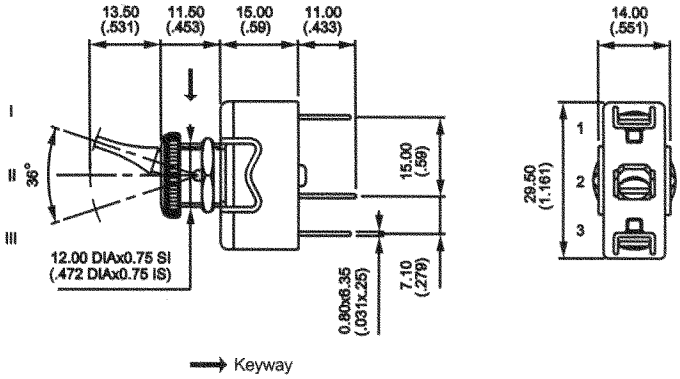
SOLDER LUG	SCREW TERMS.	CIRCUIT		
651H/2	651H	ON	-	OFF
655H/2	655H	MOM	-	ON
656H/2	656H	ON	-	ON
657H/2	657H	MOM	OFF	MOM
658H/2	658H	ON	OFF	MOM
659H/2	659H	ON	OFF	ON
Handle position:		III	II	I
Terminals		2-1		2-3
connected:		5-4		5-6
		8-7		8-9



Single pole - insulated actuator



SOLDER LUG	SCREW TERMS.	CIRCUIT		
631NH/2	631NH	ON	-	OFF
635NH/2	635NH	MOM	-	ON
636NH/2	636NH	ON	-	ON
637NH/2	637NH	MOM	OFF	MOM
638NH/2	638NH	ON	OFF	MOM
639NH/2	639NH	ON	OFF	ON
Handle position (see dwg.) :		III	II	I
Terminals connected:		2-1		2-3

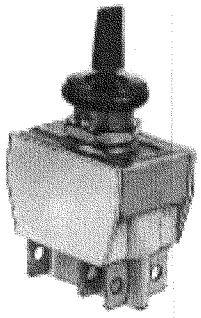


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

600H & 600NH SERIES - POWER TOGGLE SWITCHES

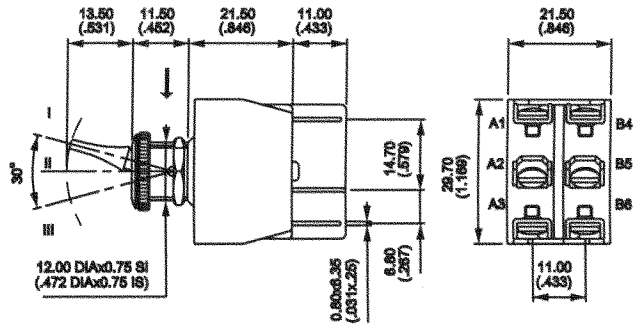
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Double pole - insulated actuator



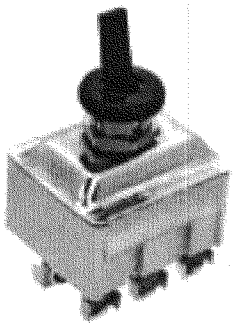
SOLDER LUG	SCREW TERMS.	CIRCUIT		
641NH/2	641NH	ON	-	OFF
644NH/2*	644NH*	ON	ON	ON
644NH/21R*	644NH1R*	ON	ON	MOM
644NH/22R*	644NH2R*	MOM	ON	MOM
645NH/2	645NH	MOM	-	ON
646NH/2	646NH	ON	-	ON
647NH/2	647NH	MOM	OFF	MOM
648NH/2	648NH	ON	OFF	MOM
649NH/2	649NH	ON	OFF	ON
Handle position:		III	II	I
Terminals connected:		2-1 5-4		2-3 5-6

* Function 4: SP in DP case. See info. at end of section.

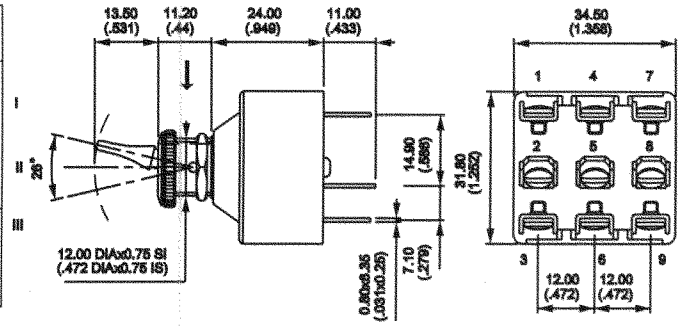


→ Keyway

Three pole - insulated actuator



SOLDER LUG	SCREW TERMS.	CIRCUIT		
651NH/2	651NH	ON	-	OFF
655NH/2	655NH	MOM	-	ON
656NH/2	656NH	ON	-	ON
657NH/2	657NH	MOM	OFF	MOM
658NH/2	658NH	ON	OFF	MOM
659NH/2	659NH	ON	OFF	ON
Handle position:		III	II	I
Terminals connected:		2-1 5-4 8-7		2-3 5-6 8-9



→ Keyway

600SH & 600SNH - switches for peak currents - up to 150 Amps at 250 VAC

Contacts: Silver cadmium oxide

Capacitive load ratings:
15/150A 125VAC & 250VAC - 5,000 cycles
10/150A 125VAC & 250VAC - 10,000 cycles
4/90A (10ms) 60VDC - 10,000 cycles

Motor load ratings:
(note: 15(6)A 250VAC= 15A resistive and 6A motor)

15(6)A 250VAC - 10,000 cycles	10(4)A 380VAC - 10,000 cycles
17(6)A 125VAC - 6,000 cycles	1 HP 250VAC - 10,000 cycles
2 HP 250VAC - 6,000 cycles	1/2 HP 125VAC - 6,000 cycles

Lamp load ratings: 10A 125VAC & 250VAC - 10,000 cycles

Other specs. & dimensions: Same as 600H & 600NH models previously described.
Compatible with options **T, G, K, 1V, 2V & 3V**.

Single and double pole models are UL approved (3/4 HP 125VAC)

Also see 'Switches for Peak Currents' technical page in rear of catalog.

SCREW TERMINALS WITH CLAMP	SOLDER LUG QUICK-CONNECT TERMINALS	CIRCUIT		
SINGLE POLE				
631SH	**631SH/2**	ON	-	OFF
636SH	**636SH/2**	ON	-	ON
DOUBLE POLE				
641SH	**641SH/2**	ON	-	OFF
646SH	**646SH/2**	ON	-	ON
THREE POLE				
651SH	**651SH/2**	ON	-	OFF
656SH	**656SH/2**	ON	-	ON

Above models have nickel plated brass actuator. For insulated actuator, replace 'SH' in above model numbers with 'SNH'.

600H & 600NH SERIES - POWER TOGGLE SWITCHES

Additional ordering information: Commonly ordered models are shown on prior pages with complete model numbers and specifications. Below is an order format that enables you to 'build your own switch' and specify the correct switch model number by simply selecting from all available options shown and filling in the boxes.

'BUILD YOUR OWN SWITCH' ORDER FORMAT

Fill in boxes with selections shown for **Model Structure**, then add **Options** selections for complete model number.
Allowable options are shown below each respective box.
Note 'NONE' indicates box may be left empty.

Model Structure:

Series	Number of poles	Electrical functions	Actuator and terminals	Momentary for function 4
6				
	3 Single pole 4 Double pole 5 Three pole	1 ON - OFF 5 MOM - ON 6 ON - ON 7 MOM OFF MOM 8 ON OFF MOM 9 ON OFF ON 4 ON ON ON 4* ON ON MOM 4* MOM ON MOM * specify selection from 'connections/ functions' box also.	(NONE) H Metal actuator, screw terminals H / 2 Metal actuator, solder lug/quick connect style terminals N H Insulated actuator, screw terminals N H / 2 Insulated actuator, solder lug/quick-connect style terminals	(NONE) 1 R ON ON MOM 2 R MOM ON MOM

Options:

Misc. options	Locking actuators
(NONE) T High temperature DAP case: -40°C to +85° G Matte black finish on actuator, bushing & nuts. Includes option 'T' above. K Front panel sealing with '0'-ring and sealing washer	(NONE) 1 V Locking (1 position) 2 V Locking (2 positions) 3 V Locking (3 positions) (see actuator drawings).

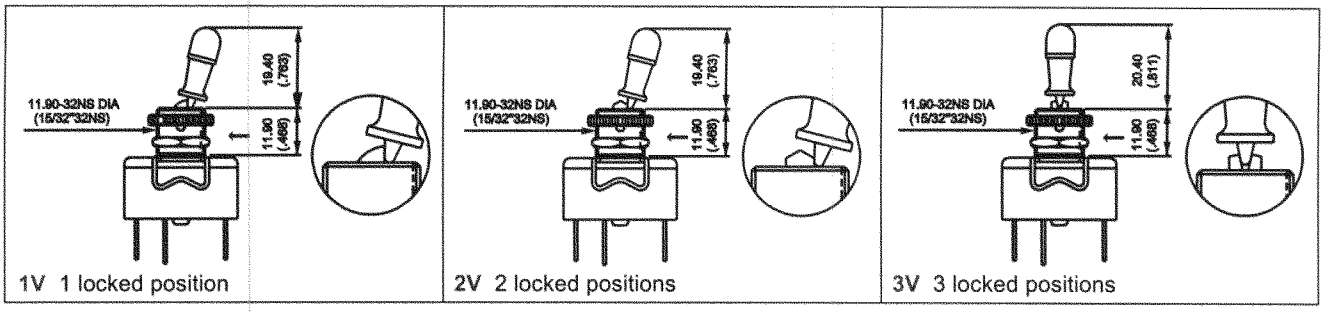
Example of completely specified model number:
644H/21RGK

Although most combinations of options are available, some may result in incompatibilities. Consult factory if there is any question.

OPTIONS & SPECIAL OPTIONS

LOCKING ACTUATORS for 1 & 2 pole models

Arrow indicates keyway



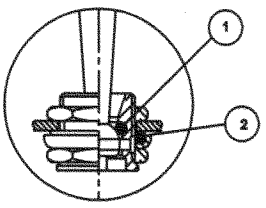
1V 1 locked position | 2V 2 locked positions | 3V 3 locked positions

SPECIAL OPTIONS

T High temperature diallyl phthalate case (-40°C to +85°C).

G Matte black finish on actuator, bushing and nuts. Includes option **T** above.

K Front panel sealing with '0'-ring and sealing washer.



K

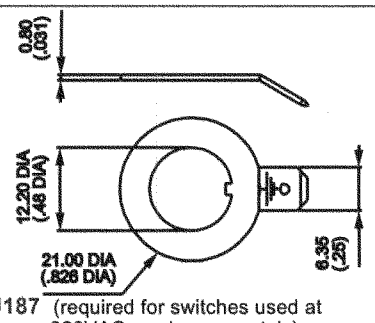
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

600H & 600NH SERIES - POWER TOGGLE SWITCHES

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

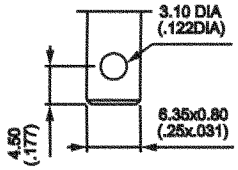
OPTIONS & MISCELLANEOUS

GROUNDING LUG RING

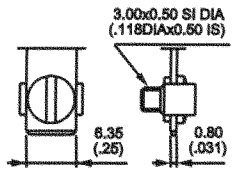


U187 (required for switches used at 380VAC - order separately)

TERMINALS



600H/2 Solder lug terminals



600H Screw terminals

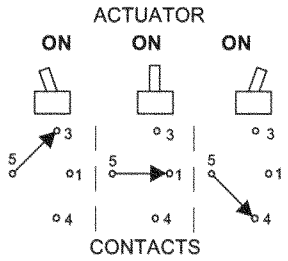
POSITIONS & CONNECTIONS for function 4 switches

FUNCTION 4			FUNCTION 41R			FUNCTION 42R		
ACTUATOR			ACTUATOR			ACTUATOR		
ON	**ON**	**ON**	**MOM**	**ON**	**ON**	**MOM**	**ON**	**MOM**
CONTACTS			CONTACTS			CONTACTS		
ON	**ON**	**ON**	**MOM**	**ON**	**ON**	**MOM**	**ON**	**MOM**
5-6	5-6	5-4	5-6	5-6	5-4	5-6	5 -6	5-4
ON	**ON**	**ON**	**MOM**	**ON**	**ON**	**MOM**	**ON**	**MOM**
2-3	2-1	2-1	2-3	2-1	2-1	2-3	2-1	2-1

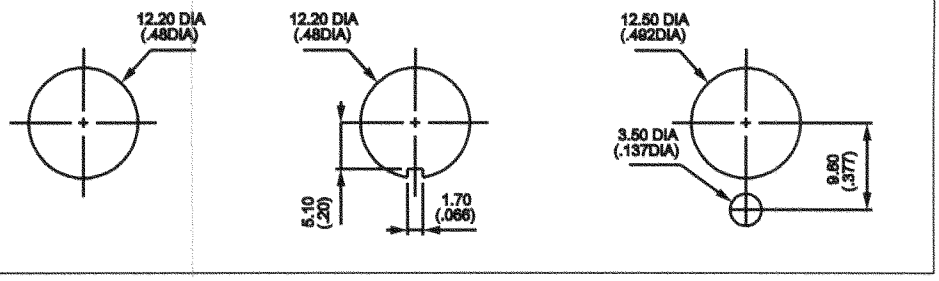
MOM = momentary action

WIRING FOR 3 WAY SWITCH for function 4 switches

Equivalent to single pole 3 throw switch. External jumper must be connected between terminals 2 & 6 by customer.



PANEL CUT-OUTS



SWITCH ACTION

(arrow indicates keyway)